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09/747,642	12/22/2000	Brady J. Moroney	D-2696/WOD	4538

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The Trane Company
Patent Department - 12-1
3600 Pammel Creek Road
La Crosse, WI 54601

EXAMINER

ROBINSON BOYCE, AKIBA K

ART UNIT	PAPER NUMBER
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3628

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09/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/747,642

Applicant(s)

MORONEY ET AL.

Examiner

Akiba K. Robinson-Boyce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Due to communications filed 6/11/07, the following is a non-final office action. Claims 1-22 are pending in this application. The previous rejection has been withdrawn, and claims 1-22 are rejected as follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5-16, 18-20, 22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanchez-Lazer et al (US 6,000,945), and further in view of Hunt et al (US 5,042,668).

As per claim 1, Sanchez-Lazer et al discloses:

developing an electronic specification describing the product and its components, (Col. 19, lines 7-9, test creation team preparing specific information on the desired test); forwarding the electronic specification..., (Col. 19, lines 9-10, logging specific information into a test planning system of the TCS [test creation system]);

the specific company building the component or product in accordance with requirements in the electronic specification, (Col. 19, lines 28-32, creating an assembly request and resulting item sets are posted to the worksheet and can be reviewed on-line);

the specific company testing the component product, (Col. 19, lines 41-45, shows comparing test specifications to status of the assembly);

the specific company appending the test results to the electronic specification, (Col. 19, lines 45-52, shows that determinations from testing the assembly are documented in the assembly records archive);

the specific company determining if the product is completed, (Col. 19, line 65-Col. 20, line 24, final test layout/final approval of assembly); and

either shipping the completed product to the customer or forwarding the electronic specification, (Col. 20, lines 25-37, documentation related to the assembly is sent to appropriate TAS [test assembly system] databases, updating their records);

Sanchez-Lazer et al does not specifically disclose the following, but does make an analogy for tests in education in col. 1, lines 13-19, and discloses that *tests are used by more than one institution* for determining whether or not admission should be granted, which suggests that test results are sent to several institutions for determining if applicants meet certain qualifications, and also discloses an estimated number of examinees for tests are included in the planning documents in Col. 12, lines 36-40.

However, Hunt et al discloses:

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Forwarding to one of the several companies, (Col. 1, lines 17-21, shows that many different manufacturers produce testing devices). Hunt et al discloses this limitation in an analogous art for the purpose of determining [by several manufacturers], whether or not a component is within design specifications so the components can ultimately be used for assembly. In this case, testing data must be forwarded to the manufacturers in order for them to test on their testing devices.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to forward an electronic specification to several companies with the motivation of allowing more than one company to determine if components meet certain qualifications according to the specification.

As per claim 2, Sanchez-Lazer et al discloses:

wherein the forwarding step includes the step of providing a central server to centralize the forwarding step, (Col. 11, lines 34-38, shows centralized repository of test information from which the appropriate analysis group can retrieve, thereby making a centralized server inherent in order for retrieval of information in the centralized repository to take place).

As per claim 5, Sanchez-Lazer et al discloses:

step of saving at least one updated version of the electronic specification, (Col. 19, lines 41-43, saved constraint set containing test specifications).

As per claim 6 Sanchez-Lazer et al discloses:

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comparing the updated version of the electronic specification with an electronic specification having appended test results, (Col. 19, lines 41-43, comparing worksheet contents to saved constraint set containing test specifications).

As per claim 7, Sanchez-Lazer et al discloses:

the step of revising the updated version to include late customer changes, (col. 19, lines 48-51, determines if deviations are acceptable and if so, documenting in records, col. 19, lines 58-col. 10, line 24, item replacement).

As per claim 8, Sanchez-Lazer et al discloses:

comparing the revised updated version of the electronic specification with an electronic specification having appended test results; wherein the comparing step includes the steps of determining and implementing late customer changes to the electronic specification in the product or components, Col. 20, lines 16-24, review of layout).

As per claim 9, Sanchez-Lazer et al discloses:

Generating a sales order in an electronic form; converting the sales order to an electronic build document, (col. 12, lines 5-10, test order is entered into TOST monitoring system, w/ Col. 19, lines 7-9, test creation team preparing specific information on the desired test, in this case, sales order is represented by sales order);

transferring the electronic build document to a first company for the construction of a first subassembly for the product, (Col. 19, lines 9-10, logging specific information into a test planning system of the TCS [test creation system]);

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testing the subassembly of the first company, (Col. 19, lines 41-45, shows comparing test specifications to status of the assembly);

attaching the test results to the electronic build document, (Col. 19, lines 45-52, shows that determinations from testing the assembly are documented in the assembly records archive);

attaching a communications bus to the product, (inherent with computer-based system in Col. 23, lines 25-26 since communication buses are used in computer-based systems for communication and in order to perform a test, the product or component must be communicated with);

shipping the product, (Col. 11, lines 20-25, packaging of test booklets suggests packaging and sending a product associated with the test materials, where sending generally includes shipping or mailing).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to ship the product with the motivation of sending the product to a user.

Sanchez-Lazer et al does not specifically disclose the following, but does disclose testing and adding operability test results to the electronic build document for each component as discussed above, therefore making the following limitation is obvious with Sanchez-Lazer et al:

testing the operability of the bus/adding the bus operability test results to the electronic build document/attaching the first subassembly to the bus, testing the operability of the first subassembly and the bus/attaching the subassembly and bus

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operability test results to the electronic build document, (this limitation is obvious since the communications medium is associated with the tested component, and it would therefore be obvious to also test the medium, and also add the operability test results of the communications medium to the electronic build document since the component's operability relies on the operability of the communications medium).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to test the operability of the bus, and add the bus operability test results to the electronic build document with the motivation of also testing and adding information about items associated with the actual component.

Sanchez-Lazer et al does not specifically disclose the following, but does make an analogy for tests in education in col. 1, lines 13-19, and discloses that *tests are used by more than one institution* for determining whether or not admission should be granted, which suggests that test results are sent to several institutions for determining if applicants meet certain qualifications, and also discloses an estimated number of examinees for tests are included in the planning documents in Col. 12, lines 36-40.

However, Hunt et al discloses:

forwarding the electronic build document to a second company for main assembly, (Col. 1, lines 17-21, shows that many different manufacturers produce testing devices). Hunt et al discloses this limitation in an analogous art for the purpose of determining [by several manufacturers], whether or not a component is within design specifications so the components can ultimately be used for assembly. In this case,

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testing data must be forwarded to the manufacturers in order for them to test on their testing devices.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to forward an electronic specification to several companies with the motivation of allowing more than one company to determine if components meet certain qualifications according to the specification.

As per claim 10, Sanchez-Lazer et al discloses:

generating a sales order representative of a product; (col. 3, line 24, test order request, w/col. 12, lines 5-10, test order is entered into TOST monitoring system, w/ Col. 19, lines 7-9, test creation team preparing specific information on the desired test, in this case, sales order is represented by sales order);

developing build and test instructions from the sales order, (Col 3, lines 26-29, electronically creating a worksheet);

developing an installation sequence from the build and test instructions, (Col. 3, lines 29-31, electronically sequencing); and

building the product using the build and test instructions in the sequence laid out by the installation sequence, (Col. 3, lines 29-31, so as to produce an assembly of test items).

As per claim 11, Sanchez-Lazer et al discloses:

wherein the developing and building steps are performed under the control of a control device, (Col. 21, lines 16-17, control under the formatter, w/ Col. 6, lines 30-33, control parameters).

As per claim 12, Sanchez-Lazer et al discloses:

wherein the product includes a communications bus, and input and output components to be operably linked to the bus, (inherent with computer-based system in Col. 23, lines 25-26 since communication buses are used in computer-based systems for communication and in order to perform a test, the product or component must be communicated with).

As per claim 13, Sanchez-Lazer et al discloses:

wherein the developing an installation sequence step is accomplished by a tester device which also oversees the building step, (Col. 19, lines 41-43, TAS).

As per claim 14, Sanchez-Lazer et al discloses:

calling for the next input or output component to be operably connected to the communication bus as identified by the installation sequence; and verifying the operability of the component and the bus, (Col. 3, lines 29-38, electronically sequencing, and reviewing that particular assembly).

As per claim 15, Sanchez-Lazer et al discloses receiving a first signal from the component by means of bus; determining a unique identity for the signaling component; responding by means of bus with a second signal to the component providing the component with an identity, but Sanchez-Lazer et al does disclose testing and adding operability test results to the electronic build document for each component as discussed above with respect to claim 1.

However, Hunt et al discloses:

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receiving a first signal from the component by means of bus; determining a unique identity for the signaling component; responding by means of bus with a second signal to the component providing the component with an identity, (col. 6, lines 5-14, signal). Hunt et al discloses this limitation in an analogous art for the purpose of showing that signals are used to indicate the presence of a component.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to receive a first signal from the component by means of bus; determine a unique identity for the signaling component; respond by means of bus with a second signal to the component providing the component with an identity with the motivation of using bus signals to control the operation of building components.

As per claims 16, Sanchez-Lazer et al discloses:

wherein the responding step further includes the step of providing the signaling component with operational parameters, (Col. 6, lines 30-33, control parameters).

As per claim 18, Sanchez-Lazer et al discloses:

Wherein the developing the build and test instruction step includes the further step of using the specification to create a build and test file, (Col. 19, lines 28-32, creating an assembly request as a result of the electronic specifics, and resulting item sets are posted to the worksheet and can be reviewed on-line).

As per claim 19, neither Sanchez-Lazer et al, nor Hunt et al discloses the following, however, Sanchez-Lazer et al does disclose a build and test file in Col. 19, lines 28-32.

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However, official notice is taken that it is old and well known in the data file art to utilize xml format. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize xml format with the motivation of having the proper structure for building the components.

As per claim 20/22, Sanchez-Lazer et al discloses:

Wherein the installation sequence developing step includes the further step of cross checking the installation sequence with the specification/wherein the verifying step includes the further steps of testing the operation of the communications bus, testing the operation of the component, and cross checking the identity, parameters and the operation of the component and the bus with the specification, (Col. 19, line 65-Col. 20, line 24, final test layout/final approval of assembly).

4. Claim 3, 4, 17, 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanchez-Lazer et al (US 6,000,945), and further in view of Hunt et al (US 5,042,668), and further in view of Cho et al (US 5,295,067).

As per claims 3, 4, 17, 21, neither Sanchez-Lazer et al, nor Hunt et al disclose the following, however, Sanchez-Lazer et al discloses an electronic specification in Col. 19, lines 7-9, where a test creation team preparing specific information on the desired test.

However, Cho et al discloses:

providing a bill of materials for the components and the product at the time the electronic specification is developed/creating a bill of materials and a specification/periodically comparing the bill of materials to the electronic specification to

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verify the accuracy of both/ wherein the installation developing sequence includes a further step of cross checking the bill of materials with the installation sequence, (Claim 6, determining a required bill of materials list for said order configuration by evaluating said order configuration according to said encoded relationships, where the first knowledge base for creation of the order configuration includes the specification). Cho et al discloses this limitation in an analogous art for the purpose of showing that the bill of materials is evaluated according to the specification.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide a bill of materials for the components and the product at the time the electronic specification is developed/creating a bill of materials and a specification/periodically comparing the bill of materials to the electronic specification to verify the accuracy of both/ wherein the installation developing sequence includes a further step of cross checking the bill of materials with the installation sequence with the motivation of allowing a bill of materials to be created according to the specification.

Response to Arguments

5. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 571-272-6734. The examiner can normally be reached on Monday-Friday 9am-5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

•Patent Application Information Retrieval (PAIR) system; Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

A handwritten signature in black ink, appearing to read 'A. R. B.', with a long horizontal flourish extending to the right.

A. R. B.
September 4, 2007